

1003.161 Air Navigation Space Regulations.

1. Scope of Provisions.

This section contains the Air Navigation Space Regulations for St. Louis County. These regulations shall apply in that part of the unincorporated area of St. Louis County as hereinafter indicated.

2. Statement of Intent.

The Air Navigation Space Regulations shall establish height limitations for structures and trees within proximity to Aircraft Landing Approach Areas and Major Airport Maneuvering Areas.

3. Definitions.

For the purpose of this section the following words and phrases shall have the meaning given herein.

- (1) **Airport** - An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.
- (2) **Airport Elevation** - The highest point of an airport's usable landing area measured in feet from sea level.
- (3) **Approach Surface** - A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope. In plan the perimeter of the approach surface coincides with the perimeter of the approach zone.
- (4) **Conical Surface** - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- (5) **Horizontal Surface** - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.
- (6) **Larger Than Utility Runway** - A runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet powered aircraft.
- (7) **Non-Precision Instrument Runway** - A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved or planned.
- (8) **Person** - An individual, firm, partnership, corporation, company, association, joint stock association, or governmental entity; includes a trustee, a receiver, an assignee, or a similar representative of any of them.
- (9) **Precision Instrument Runway** - A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS) or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated on an approved airport layout plan or any other planning document.
- (10) **Primary Surface** - A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway.

- (11) **Runway** - A defined area on an airport prepared for landing and takeoff of aircraft along its length.
 - (12) **Object** - A structure, including a mobile structure, constructed or installed by man, or a product of nature, including but without limitation, buildings, towers, cranes, smokestacks, earth formations, trees, overhead transmission lines, and utility poles.
 - (13) **Transitional Surfaces** - These surfaces extend outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90 degree angles to the extended runway centerline.
 - (14) **Utility Runway** - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.
 - (15) **Visual Runway** - A runway intended solely for the operation of aircraft using visual approach procedures.
4. Airport zones are hereby created and established in that part of St. Louis County outside incorporated cities; and shall comprise all of the land lying beneath St. Louis County-area airport approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces. Except as otherwise provided in this section, no object shall be erected, altered, maintained, planted, or be allowed to grow in any zone created by this ordinance, to a height in excess of the applicable height limitations herein established for such zone. A tract of land located in more than one of the following zones shall be deemed to be in the zone with the more restrictive height limitation. Other regulations appearing in this Chapter that are inconsistent herewith are superseded to the extent of such inconsistency.
5. **The various zones and their height limitations are hereby established and defined as follows:**
- (1) **Utility Runway Visual Approach Zone** - shall have a width at its inner edge coinciding with the width of the runway's primary surface, as defined in subsection 6, and expanding outwardly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the approach zone shall be the continuation of the centerline of the runway. The height limitations shall be established by an imaginary plane sloping twenty (20) feet outward for each foot upward, commencing at the end of and at the same elevation as the primary surface, as specified in subsection 6, and extending to a horizontal distance of 5,000 feet along the extended runway centerline.
 - (2) **Utility Runway Nonprecision Instrument Approach Zone** - shall have a width at its inner edge of 500 feet, and expanding outwardly from the primary surface to a width of 2,000 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the approach zone shall be the continuation of the centerline of the runway. The height limitation shall be established by an imaginary plane sloping twenty (20) feet outward for each foot upward, commencing at the end of and at the same elevation as the primary surface, as specified in subsection 6, and extending to a horizontal distance of 5,000 feet along the extended runway centerline.
 - (3) **Larger Than Utility Runway With a Visibility Minimum Greater Than 3/4 Mile Nonprecision Instrument Approach Zone** - shall have a width at its inner edge coinciding with the width of the runway's primary surface, as defined in subsection 6, and expanding outwardly to a width of 3,500 feet at a horizontal distance of 10,000 feet from the primary surface. The centerline of the approach zone shall be the continuation of the centerline of the runway. The height limitations

shall be established by an imaginary plane sloping thirty-four (34) feet outward for each foot upward commencing at the end of and at the same elevation as the primary surface, as specified in subsection 6, and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

- (4) **Larger Than Utility Runway With a Visibility Minimum of 3/4 Mile, Nonprecision Instrument Approach Zone** - shall have a width at its inner edge of 1,000 feet and expanding outwardly to a width of 4,000 feet at a horizontal distance of 10,000 feet from the primary surface. The centerline of the approach zone shall be the continuation of the centerline of the runway. The height limitations shall be established by an imaginary plane sloping thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface, as specified in subsection 6, and extending to a horizontal distance of 10,000 feet along the extended runway centerline.
 - (5) **Precision Instrument Runway Approach Zone** - shall have a width at its inner edge of 1,000 feet and expanding outwardly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface. The centerline of the approach zone shall be the continuation of the centerline of the runway. The height limitations shall be established by an imaginary plane sloping fifty (50) feet outward for each foot upward commencing at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline; thence sloping upward one (1) foot vertically for each forty (40) feet horizontally to an additional distance of 40,000 feet along the extended runway centerline.
 - (6) **Transitional Zones** - the areas beneath the transitional surfaces. The height limitations shall be established by an imaginary plane sloping seven (7) feet outward for each foot upward, commencing at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation, as specified in subsection 6. In addition to the foregoing there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90 degree angles to the extended runway centerline.
 - (7) **Horizontal Zone** - is established by swinging arcs of 5,000 feet (for all runways designated utility or visual) or 10,000 feet (for all other types of runways) radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones. The height limitation shall be established by an imaginary plane lying 150 feet above the airport elevation, as designated in subsection 6.
 - (8) **Conical Zone** - is established as the area that commences at the periphery of the horizontal zone and extends outward therefrom a horizontal distance of 4,000 feet. The height limitation shall be established by an imaginary plane sloping twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation, as designated in subsection 6, and extending to a height of 350 feet above the said airport elevation.
6. For purposes of this Section, St. Louis County-area airports shall be defined to include the following: Arrowhead Airport, 850 Hog Hollow Road; Creve Coeur Airport, 3127 Creve Coeur Mill Road; Lambert-Saint Louis International Airport, Lambert Field; and Spirit of St. Louis Airport, 18260 Edison. The aforesaid airports shall be identified and described as follows:

(TABLE ON FOLLOWING PAGE.)

Airport	Elevation	Runway Number	Runway Orientation	Runway Type	Runway Length	Width of Primary Surface	Runway Construction
Arrowhead	450 ft.	2	020°	Utility Non-precision Instrument	2340 ft.	500 ft.	Paved
Arrowhead	450 ft.	20	200°	Utility Visual	2340 ft.	500 ft.	Paved
Arrowhead	450 ft.	16	160°	Utility Visual	2800 ft.	250 ft.	Turf
Arrowhead	450 ft.	34	340°	Utility Visual	2800 ft.	250 ft.	Turf
Creve Coeur	445 ft.	16	160°	Utility Visual	2825 ft.	250 ft.	Turf
Creve Coeur	445 ft.	34	340°	Utility Visual	2825 ft.	250 ft.	Turf
Creve Coeur	445 ft.	7	070°	Utility Visual	3020 ft.	250 ft.	Turf
Creve Coeur	445 ft.	25	250°	Utility Visual	3020 ft.	250 ft.	Turf
Lambert	605 ft.	12 left	120°	Larger than Utility with a Visibility Minimum Greater than 3/4 Mile Nonprecision Instrument	9121 ft.	1000 ft.	Paved
Lambert	605 ft.	30 right	300°	Precision Instrument	9121 ft.	1000 ft.	Paved
Lambert	605 ft.	30 left	300°	Precision Instrument	11018 ft.	1100 ft.	Paved
Lambert	605 ft.	12 right	120°	Precision Instrument	11018 ft.	1000 ft.	Paved
Lambert	605 ft.	24	240°	Precision Instrument	7602 ft.	1000 ft.	Paved
Lambert	605 ft.	6	060°	Larger than Utility with a Visibility Minimum of 3/4 Mile, Nonprecision Instrument	7602 ft.	1000 ft.	Paved
Lambert	605 ft.	17	170°	Utility Visual	3000 ft.	500 ft.	Paved
Lambert	605 ft.	35	350°	Utility Visual	3000 ft.	500 ft.	Paved
Spirit of St. Louis	460 ft.	7	073°	Precision Instrument	6000 ft.	1000 ft.	Paved
Spirit of St. Louis	460 ft.	25	253°	Precision Instrument	6000 ft.	1000 ft.	Paved

7. Nothing in these regulations shall be construed to prohibit the emplacement, construction, maintenance, or growth of any object not exceeding a height of thirty-five (35) feet above the airport elevation at the base of such object as specified in subsection 6.
8. Notwithstanding any other provisions of this Chapter, no use may be made of land or water within any zone established by this section in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, create bird strike hazard, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the airport.
9. The regulations prescribed by this Section shall not be construed to require the removal, lowering, or other change or alteration of any object not conforming to the regulations as of the effective date of this Ordinance, or otherwise interfere with the continuance of the nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any object, the construction or alteration of which was begun prior to the effective date of this Ordinance, and is diligently prosecuted. Notwithstanding the preceding provision of this paragraph, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the Director of the Department of Public Works to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated, and maintained at the expense of the airport to be protected thereby.